AIWA®

OPERATING INSTRUCTIONS

# HD-S1

*DIGITAL AUDIO TAPE RECORDER*
*MAGNETÓFONO DE CINTA AUDIODIGITAL*

**ENGLISH**

**IMPORTANT**
**(For the customers in the United Kingdom)**
The wires in this mains lead are coloured in accordance with the following code:
Blue: Neutral
Brown: Live
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

DAT
Digital Audio Tape

# OPERATING PRECAUTIONS

**■ This unit should not be bumped or roughly handled.**
Excessive force can damage the unit.

**■ Avoid use or placement in the following locations:**
- Extremely hot locations, such as inside a car parked in the sun
- Humid or dusty locations
- Locations with strong vibrations
- Extremely cold locations

**■ When using near a radio tuner or TV**
If noise interferes with the sound or picture of the radio tuner or TV, move this unit away from the radio tuner or TV.

**■ When using at the beach or in the rain:**
Be careful that water drops and sand do not get in the unit. They may cause damage.

**■ When not using for a long period of time:**
Remove the cassette tape. If the tape is left in for a long period of time, it may cause damage inside by sticking to the tape head or other parts.

**■ About the volume setting**
Before beginning playback, turn the volume all the way down, then turn up gradually to the desired volume level during playback. If the initial noise level of a digital tape is used as a guide to setting the volume (as may be done with ordinary cassettes), the resulting playback volume can be extremely loud, and may possibly destroy the speakers. When using headphones, be careful not to damage your ears with high volume levels.

**■ About condensation**
If left in a room made warm and damp by a heater, water droplets may form inside; this is known as condensation. If left as is, the tape may not only get entangled in the internal mechanism and fail to work properly; both the tape and the mechanism could be damaged. This recorder is equipped with safety features to prevent this, but to be safe, do not leave tapes inside the recorder if there is any possibility of this occuring. Remove tapes from the recorder when not in use.
When condensation occurs, only the STOP/EJECT button operates. If water droplets form during operation, the CAUTION indicator flashes and operation stops.
Press the STOP/EJECT button, remove the cassette and leave with the cassette holder open, for approximately 2 hours.

**■ Care and maintenance**
Wipe the cabinet and panels with a dry, soft cloth. Thinners, benzine, and alcohol are to be avoided, as they can damage the surface.

**■ Head cleaning**
If the heads become dirty or dusty, the sound may be intermittent or noise may occur. To prevent these phenomena, clean the heads using a commercially available DAT head cleaning tape.

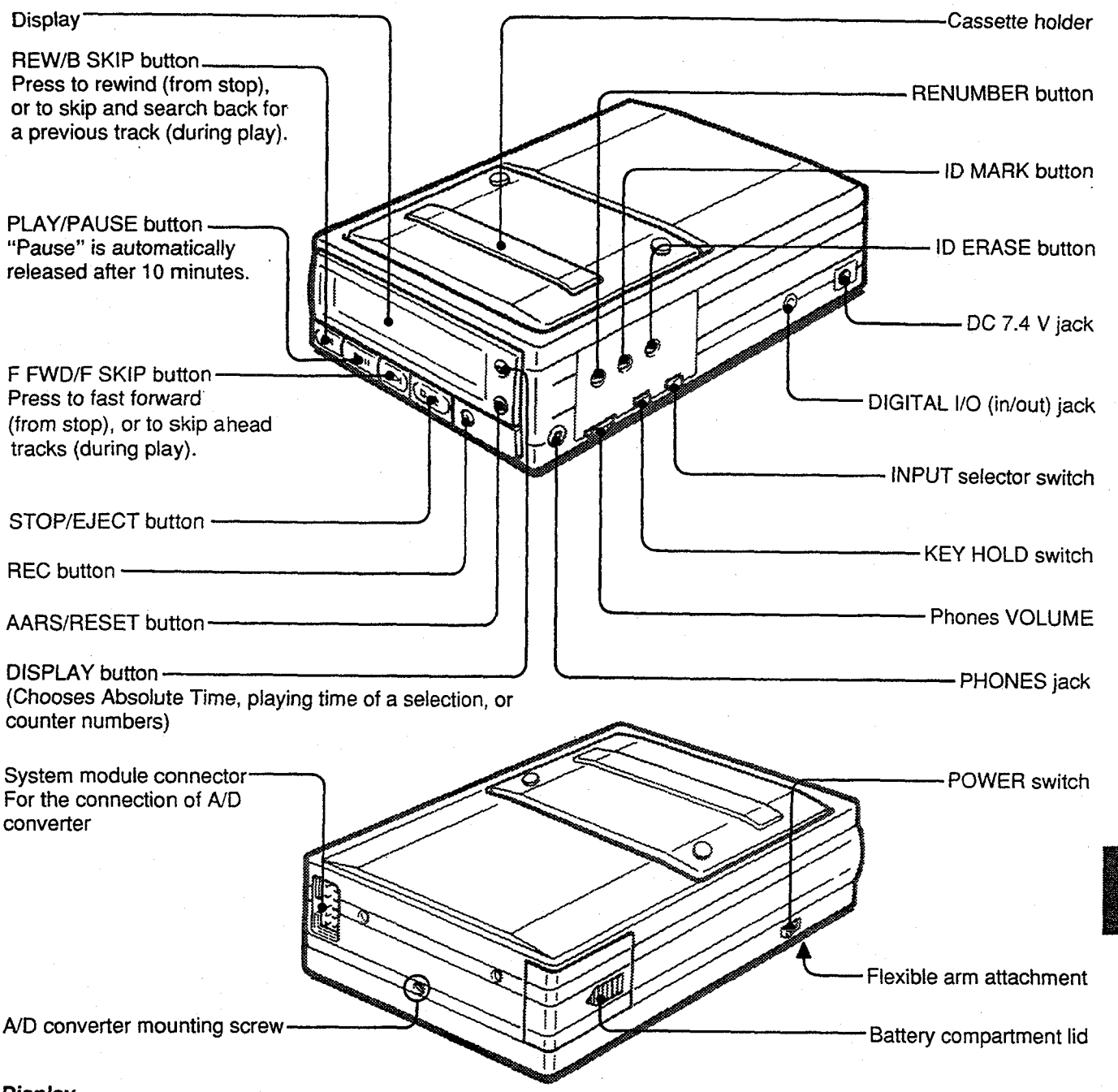
**WARNING**

To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

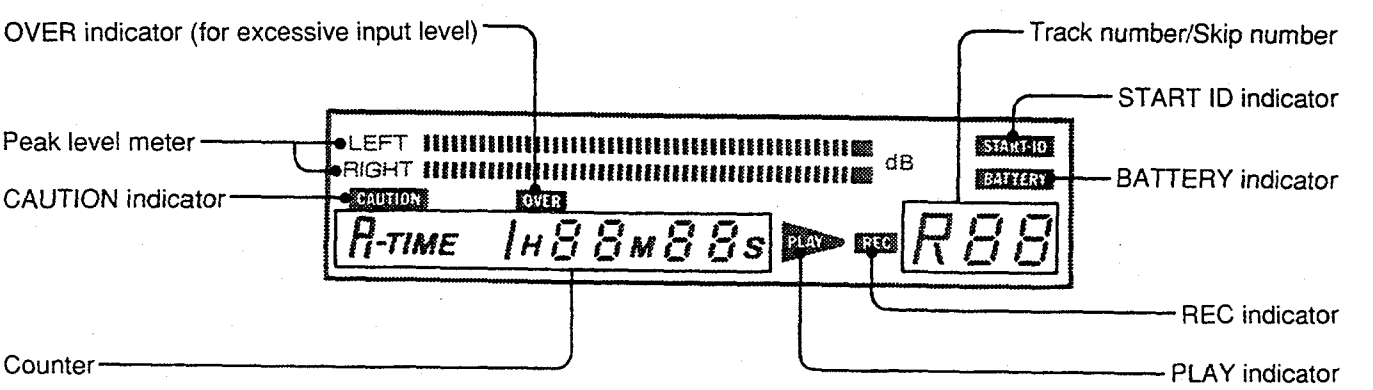
**Main Features**
- Compact, light DAT recorder you can hold in your hand
- 3-way power for use anywhere
- Subcode registration for high-speed search
- Multi-function counter showing elapsed recording time (A. TIME), elapsed playing time of a selection (P. TIME) or tape counter
- Answering the new standard SCMS for direct digital recording
- A/D converter supplied

# NAMES OF PARTS AND THEIR FUNCTIONS

## DAT Recorder

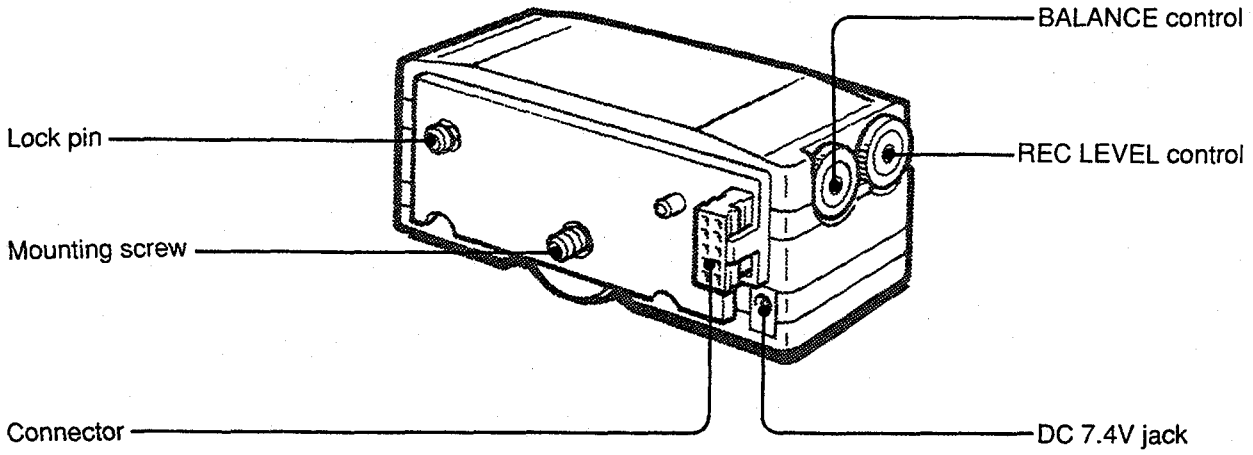

Display
REW/B SKIP button
Press to rewind (from stop), or to skip and search back for a previous track (during play).
PLAY/PAUSE button
"Pause" is automatically released after 10 minutes.
F FWD/F SKIP button
Press to fast forward (from stop), or to skip ahead tracks (during play).
STOP/EJECT button
REC button
AARS/RESET button
DISPLAY button
(Chooses Absolute Time, playing time of a selection, or counter numbers)
Cassette holder
RENUMBER button
ID MARK button
ID ERASE button
DC 7.4 V jack
DIGITAL I/O (in/out) jack
INPUT selector switch
KEY HOLD switch
Phones VOLUME
PHONES jack
System module connector
For the connection of A/D converter
A/D converter mounting screw
POWER switch
Flexible arm attachment
Battery compartment lid

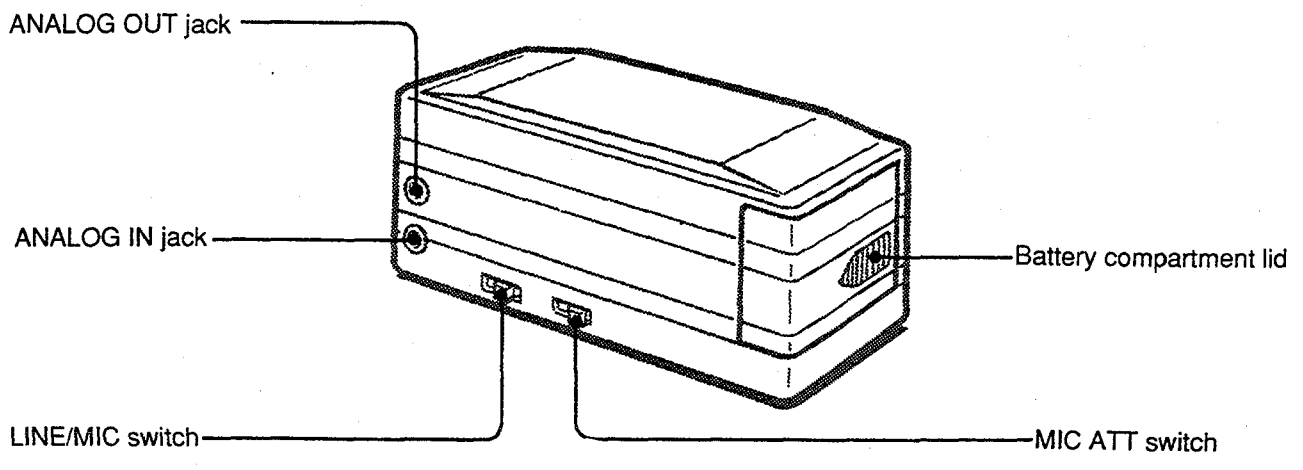
### Display



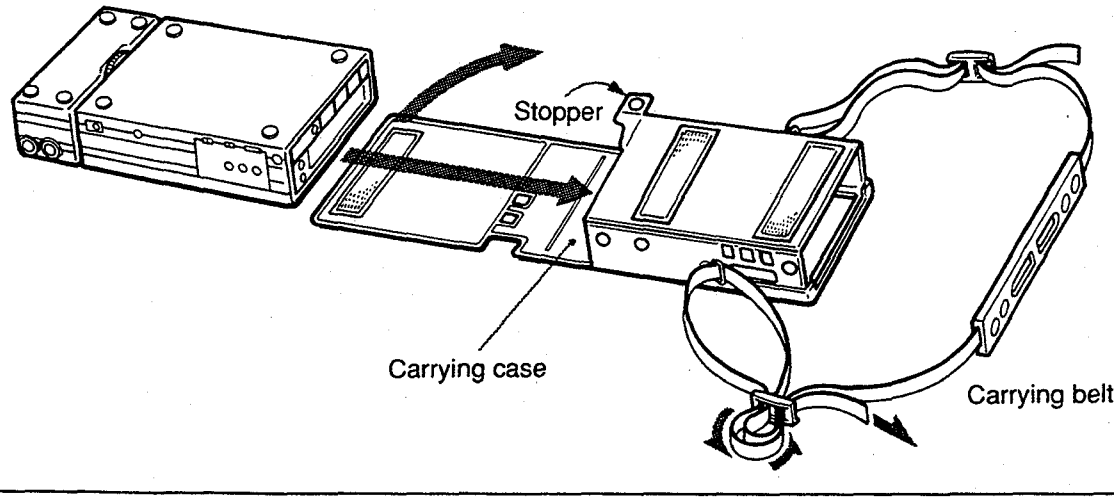
# NAMES OF PARTS AND THEIR FUNCTIONS

## HDA-1 A/D Converter




## How to use the carrying case

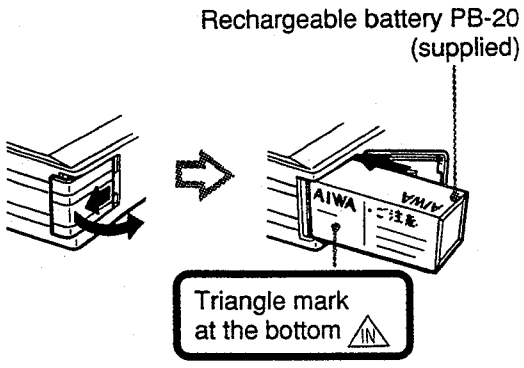


# POWER SOURCES

## Use with the Rechargeable Battery

### How to insert

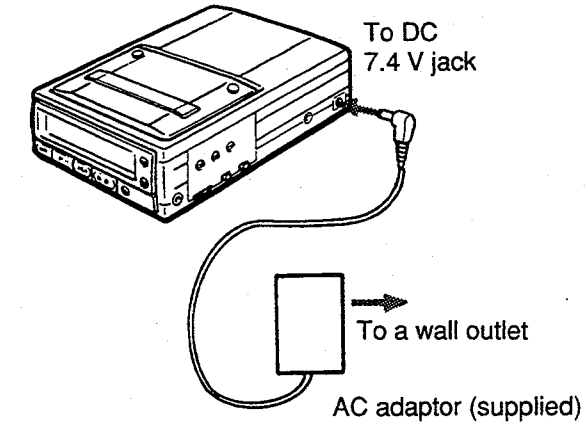
- Set the POWER switch to OFF when inserting the rechargeable battery.




- Close the battery compartment lid while pressing the battery with the lid.

### How to recharge

- Charge for more than 2 hours when using for the first time or after 3 months have passed without use.
- Set the POWER switch to OFF when recharging.




**Charging time:**

| |
|---|
| Recharging: 2 hours (with one PB-20 in the HD-S1) |
| Use: approx. 55 minutes |

### Notes on the rechargeable battery

- To avoid overcharging, take care not to recharge it for over 8 hours.
- Use only the supplied AC adaptor for recharging.
- Remove it when not using.
- Use the unit in temperatures between 5°C to 35°C to assure quality performance.
- When not using the unit, set the POWER switch to OFF. The rechargeable battery wears when the POWER switch is ON even if the unit is not in operation.

### Battery wear

When the BATTERY indicator flickers in the display, recharge it or replace it with a recharged one.
If use is continued, the BATTERY indicator will go out and operation will stop.

- When operation stops, set the POWER switch to OFF or take the battery out. Leaving as is will deteriorate the battery.

### Battery maintenance

- The supplied rechargeable battery can be recharged approximately 300 times.
- Lead rechargeable batteries are easy to discharge, and take a longer time to be recharged if left without use.
  Recharging fully soon after use prevents excessive and needless discharge.
- Replace the rechargeable battery with a new one (PB-20, optional) when it operates for successively shorter times, even when fully recharged.

### AUTO POWER OFF function

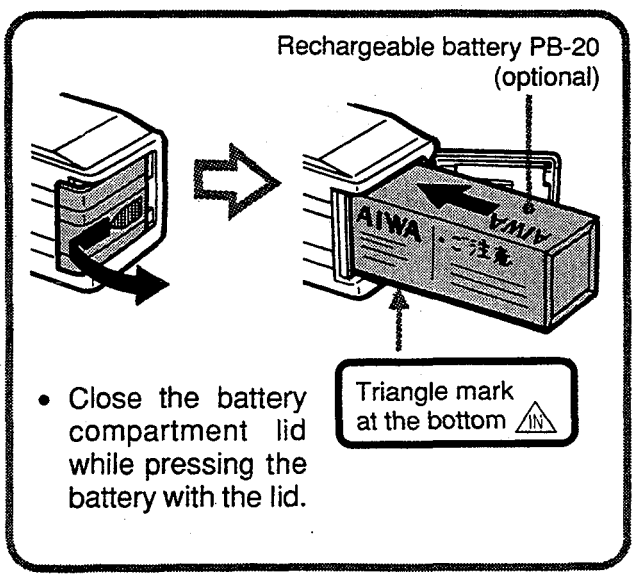
If the unit is not in operation for about 5 minutes, the power automatically goes off. To turn on the power, set the POWER switch to ON after once setting it to OFF.

# POWER SOURCES

## When Using the A/D Converter

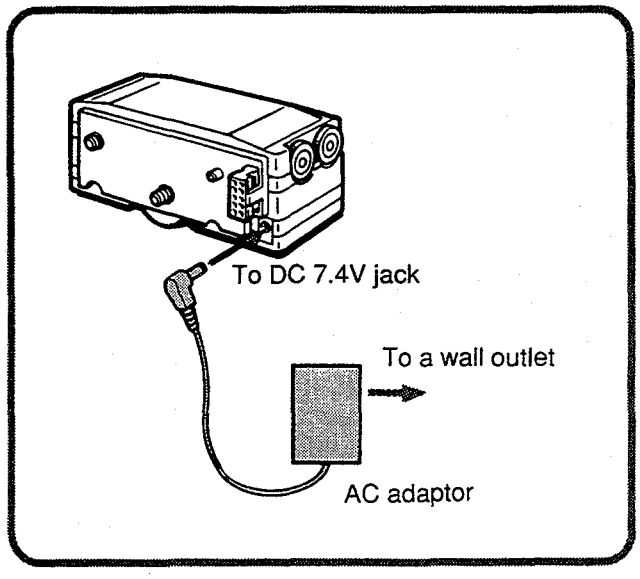
When another rechargeable battery (PB-20, optional) is inserted into the A/D converter, extended use is possible.

### ■ How to insert




- Close the battery compartment lid while pressing the battery with the lid.

### ■ How to recharge



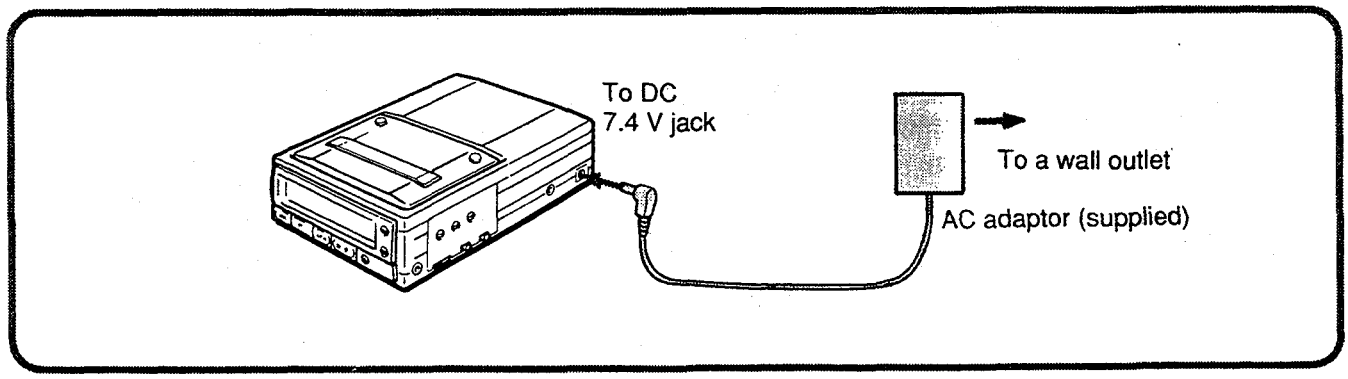

**Charging time:**

| |
|---|
| Recharging: 2 hours<br>Use: approx. 90 minutes (with HD-S1's battery and A/D con-verter's battery) |

- The rechargeable battery in the A/D converter cannot be recharged from the HD-S1.
- When you have only one rechargeable battery, insert it into the HD-S1.

## Using on House Current

- Do not leave the rechargeable battery inside the body.
- Set the POWER switch to OFF when connecting.

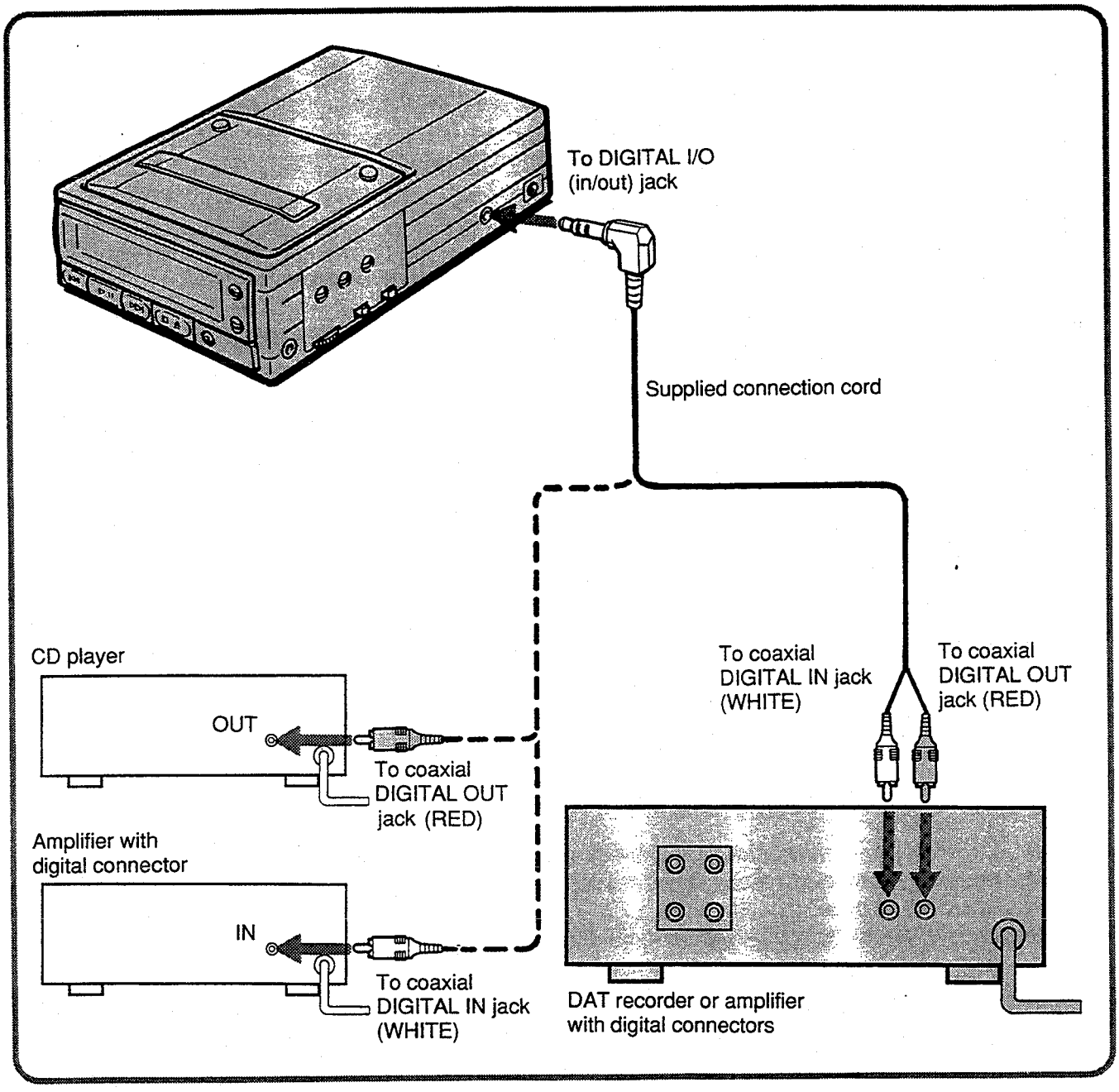



**Note**

Disconnect the AC adaptor from a wall outlet when not using for a long period of time.

# CONNECTION — Turn off power of all components involved before connecting.—

## Connection with a Digital Audio System

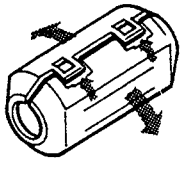

To DIGITAL I/O (in/out) jack
Supplied connection cord
CD player
OUT
To coaxial DIGITAL OUT jack (RED)
Amplifier with digital connector
IN
To coaxial DIGITAL IN jack (WHITE)
To coaxial DIGITAL IN jack (WHITE)
To coaxial DIGITAL OUT jack (RED)
DAT recorder or amplifier with digital connectors

**Notes**

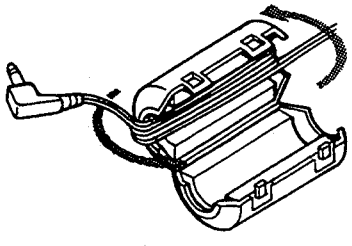
- Connect plugs firmly, pushing them all the way in. Incomplete connections are a cause of noise.
- The white plug is connected to a DIGITAL IN jack and the red plug to a DIGITAL OUT jack.

To prevent radio wave interference when using an optional connection cord, purchase a ferrite core (ZCAT2035, 0930) at your AIWA dealer. Attach the ferrite core to the cord near the DAT as illustrated. (AZ model only)

1. Open



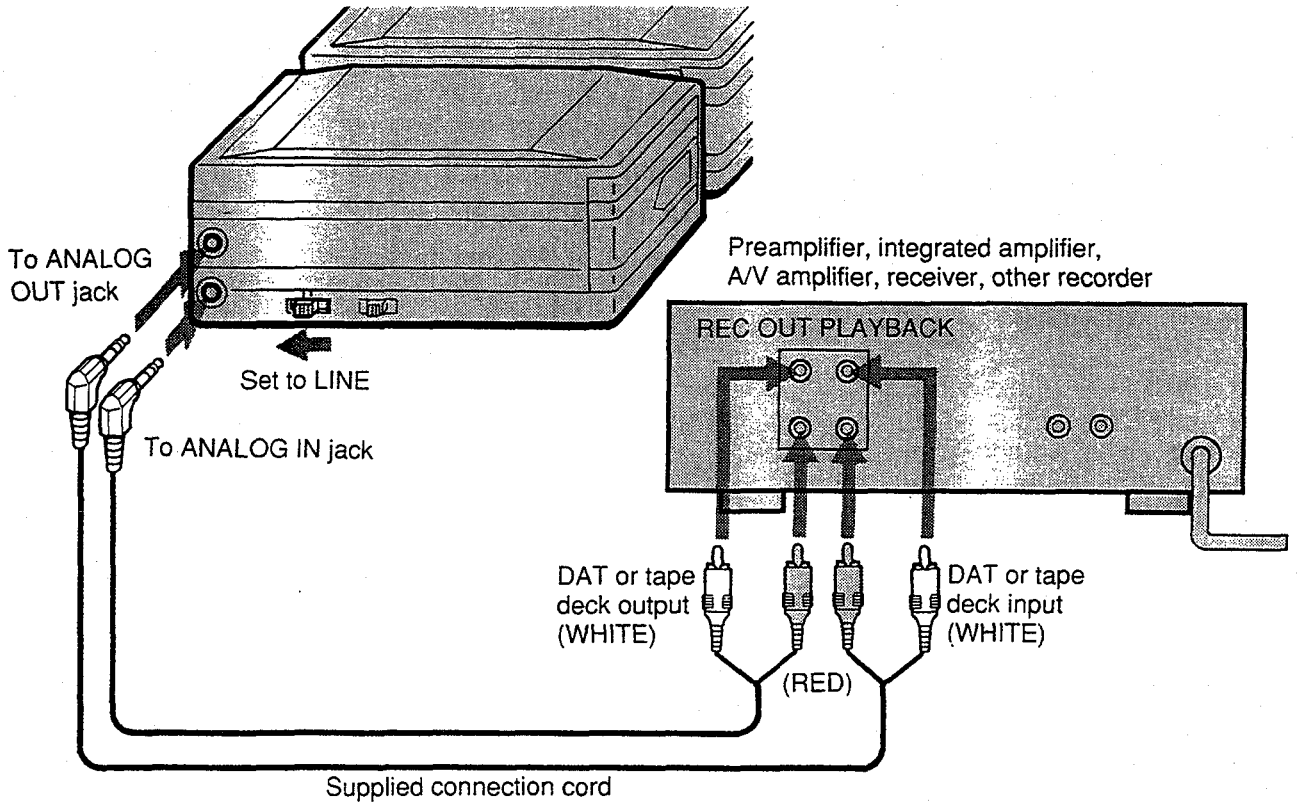
2. Wind three times and close.



# CONNECTION

## Connection with Analog Audio System

- Before connecting, attach the A/D converter. (See below)

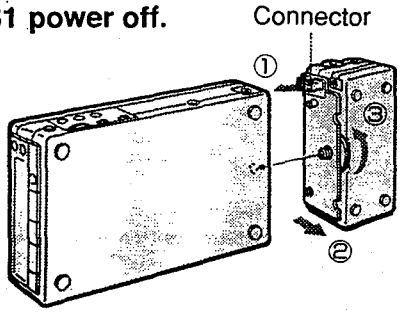

To ANALOG OUT jack
Set to LINE
To ANALOG IN jack
Preamplifier, integrated amplifier, A/V amplifier, receiver, other recorder
REC OUT PLAYBACK
DAT or tape deck output (WHITE)
DAT or tape deck input (WHITE)
(RED)
Supplied connection cord

**Notes**

- When using this unit with a car stereo, connect the PHONES jack of the HD-S1 (or the ANALOG OUT jack on the A/D converter) to the cassette deck of the car stereo using a commercially available cassette-type car connecting pack.
- The red plug is connected to the right (R) channel and the white plug to the left (L).

## How to Attach the A/D Converter to the HD-S1

- **Turn the HD-S1 power off.**

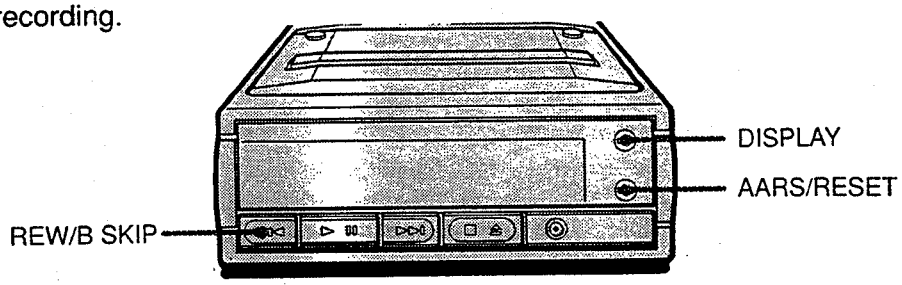



① Put the connector into the HD-S1.
② Slide the A/D converter in the direction of the arrow as shown.
③ Tighten the mounting screw.

- To remove, loosen the mounting screw and detach the A/D converter from the HD-S1.

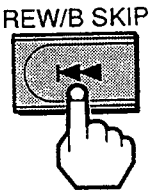
# BEFORE RECORDING

When recording, the tape running time from the beginning of the tape (A. TIME:Absolute time) is registered automatically.
To register the time accurately, operate as follows before recording.




## ■ When recording from the beginning of the tape

**Press the REW/B SKIP button.**




Tape is fully rewound and stops.

- Start recording here. If any operation except for recording is inserted before recording, A. TIME will not be registered.

## ■ When recording from the end of the last recording

**1** **Press the DISPLAY button to display A.TIME or P.TIME.**

**2** **Press the AARS/RESET button.**

The end of the previously recorded part is found, then the tape stops. (AARS* function)

- AARS will not work with a tape on which no absolute time is recorded.
- When A.TIME is visible in the display, it is automatically being registered on the tape.

* AARS=AUTOMATIC A.TIME RECORD STANDBY

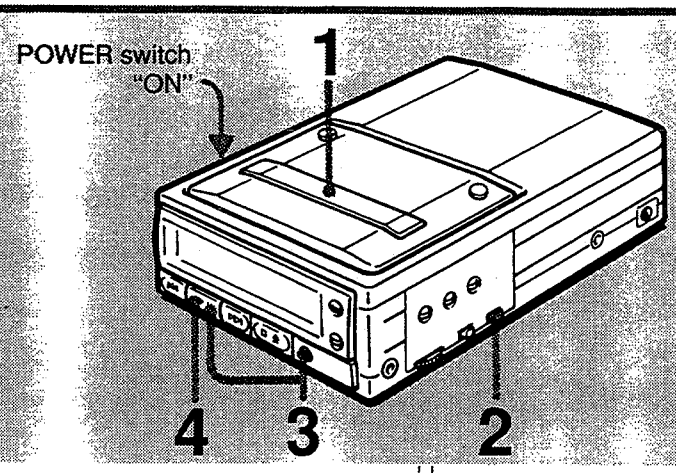
Please check the law on copyright relating to recordings from discs, radio or external tape for the country in which the machine is being used.

## ■ About the KEY HOLD switch

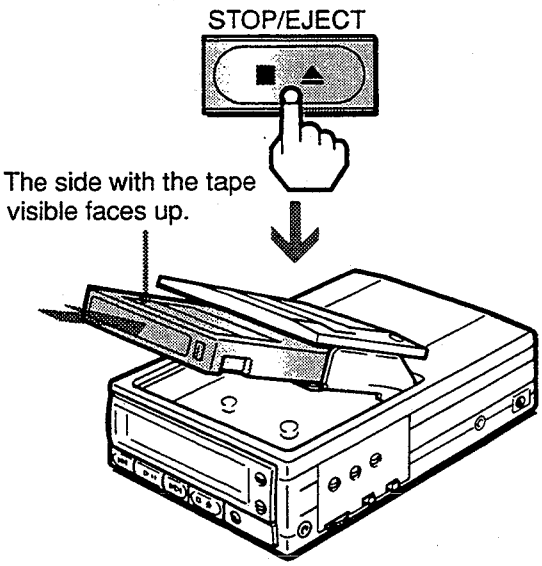
When this switch is pushed to the left, tape operation switches are inactivated to prevent operation error.
When operating the buttons, be sure to push it to the right.

# RECORDING

## Digital Recording

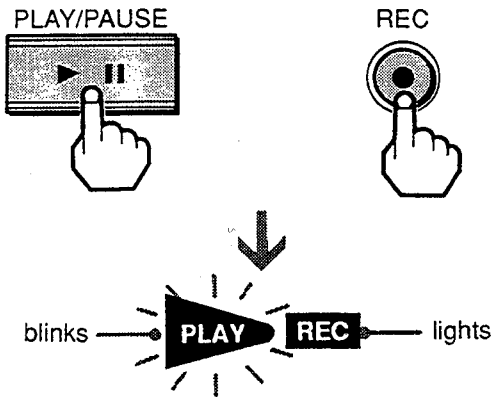



**1** **Insert a cassette.**

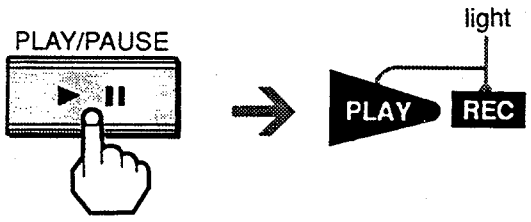



**2** **Set the INPUT switch to D (digital).**

**3** **Press the PLAY/PAUSE button while pressing the REC button.**
The unit will enter the record mode, but the tape drive will be in pause.




**4** **Press the PLAY/PAUSE button to start.**




| To stop | Press the STOP/EJECT button. |
|---|---|
| To pause | Press the PLAY/PAUSE button. |
| To resume | Press the PLAY/PAUSE button again. |

**To take out the cassette**
Press the STOP/EJECT button in stop mode.

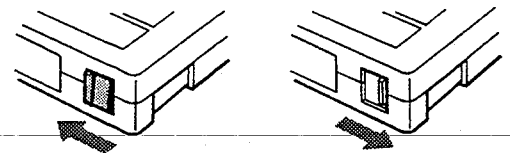
**To check the sound before recording**
Press the REC button to monitor.

## Notes on recording from digital sources

- Recorded level and recorded balance cannot be changed when recording from digital sources.
- When the digital input signal is unstable or intermittent, the HD-S1 automatically enters the PAUSE mode. Recording resumes when the signal once again becomes consistent.
- If nothing is connected to the digital input jack, the recording pause mode cannot be released by pressing the PLAY/PAUSE button.

## The cassette accidental erasure prevention tab

Recording over any previously recorded signal will permanently erase it. To save a recording, make sure the tab on the cassette is slid to the open position. To record over a previously recorded tape, make sure that this tab is in the closed position.

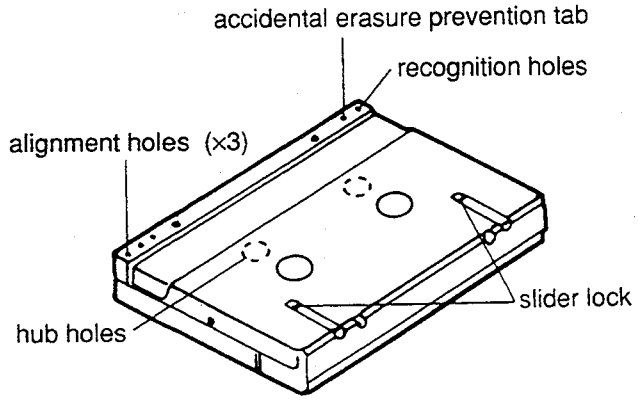


Recording is not possible (open).

Recording possible (closed)

## About DAT cassettes

- Unlike analog cassette tapes, recording and playback are possible on only one side of a cassette.
- The cassette shells are designed to inhibit the entry of dust during normal use. Do not force the protective panels open. Constant exposure to high smoke levels can cause damage to tape.




## Digital dubbing

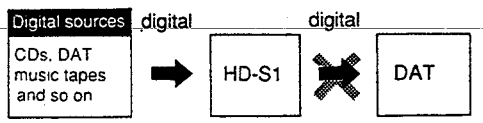
By connecting to another DAT, it is possible to do tape-to-tape digital dubbing via the digital connectors of the two recorders. If the tape being duplicated contains START IDs, they will be duplicated on the tape copy. The record level will be exactly the same on the original and copied tapes: Unlike START IDs, program numbers are not transferred. The HD-S1's renumbering function can assign program numbers.

- It is restricted to do digital dubbing from the tape which is digital recorded by the DAT with SCMS.

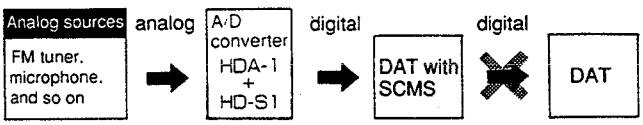
## What's SCMS (Serial Copy Management System)?

SCMS is the system that restricts tape-to-tape digital dubbing (copying) in order to protect the copyright.

It is possible to do digital recording from digital sources with the copyright (the sources with the copy prohibit signals, such as CDs and DAT music tapes). However, it is not possible to do digital dubbing from the tapes recording those sources.



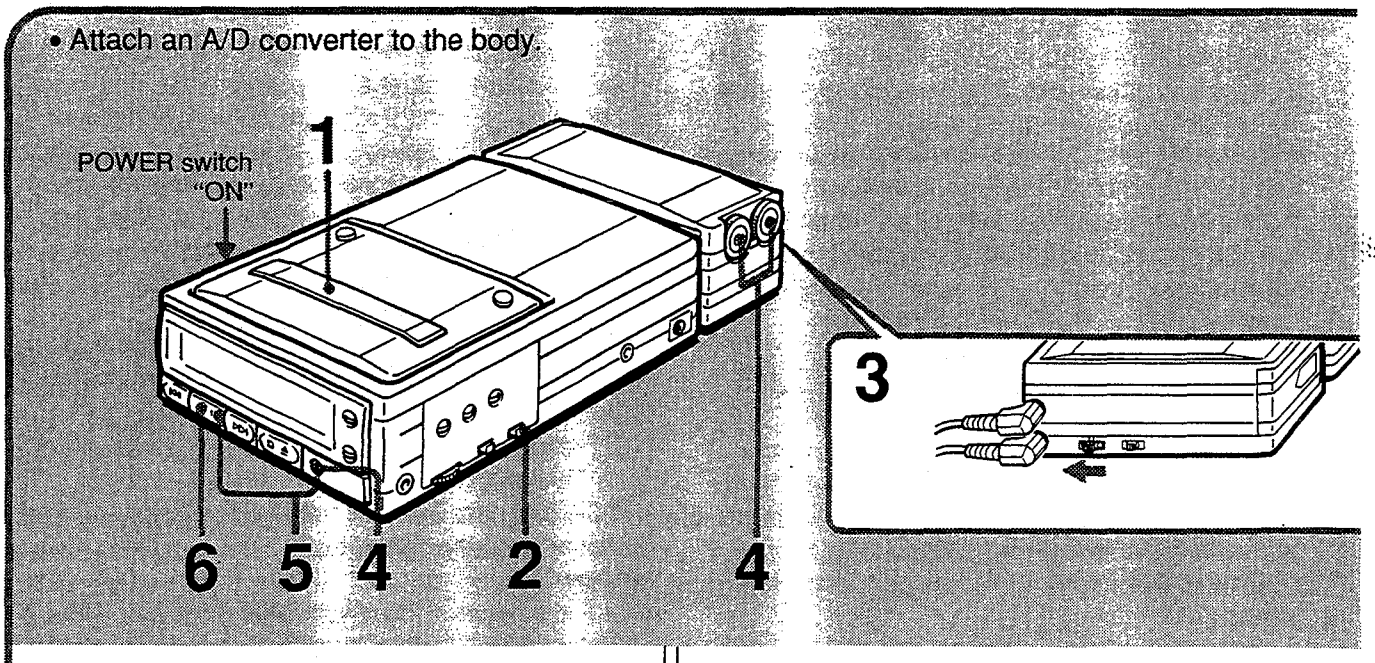

The copy prohibit signal is recorded on the analog recorded tapes by the HDA-1, A/D converter. Digital dubbing is possible only once.



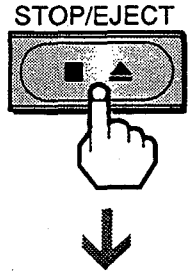
# RECORDING

## Analog Recording

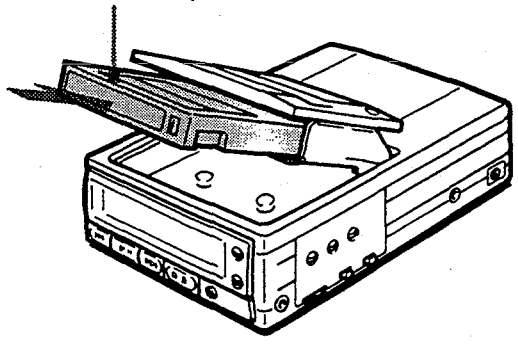
• Attach an A/D converter to the body.




**1** **Insert a cassette.**




The side of the tape visible faces up.

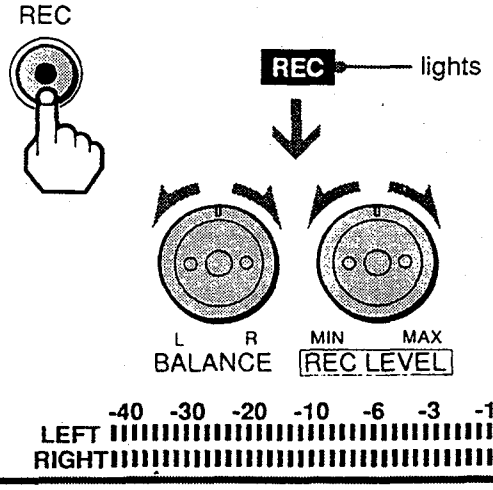


**2** **Set the INPUT switch to A (adaptor).**

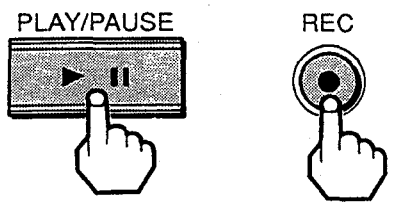
**3** **Set the LINE/MIC switch to LINE.**

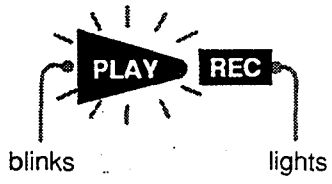
**4** **Check the record level.**

1) Press the REC button; the level meter will show input levels but the tape transport will not be engaged.
2) Feed the A/D converter a signal representative of the loudest signal anticipated during recording.
3) Set the level and the balance by using the peak level meter.

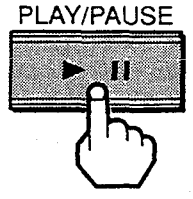


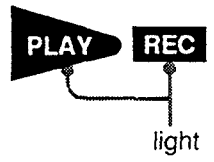
**5** **Press the PLAY/PAUSE button while pressing the REC button.**






**6** **Press the PLAY/PAUSE button once more to begin recording.**



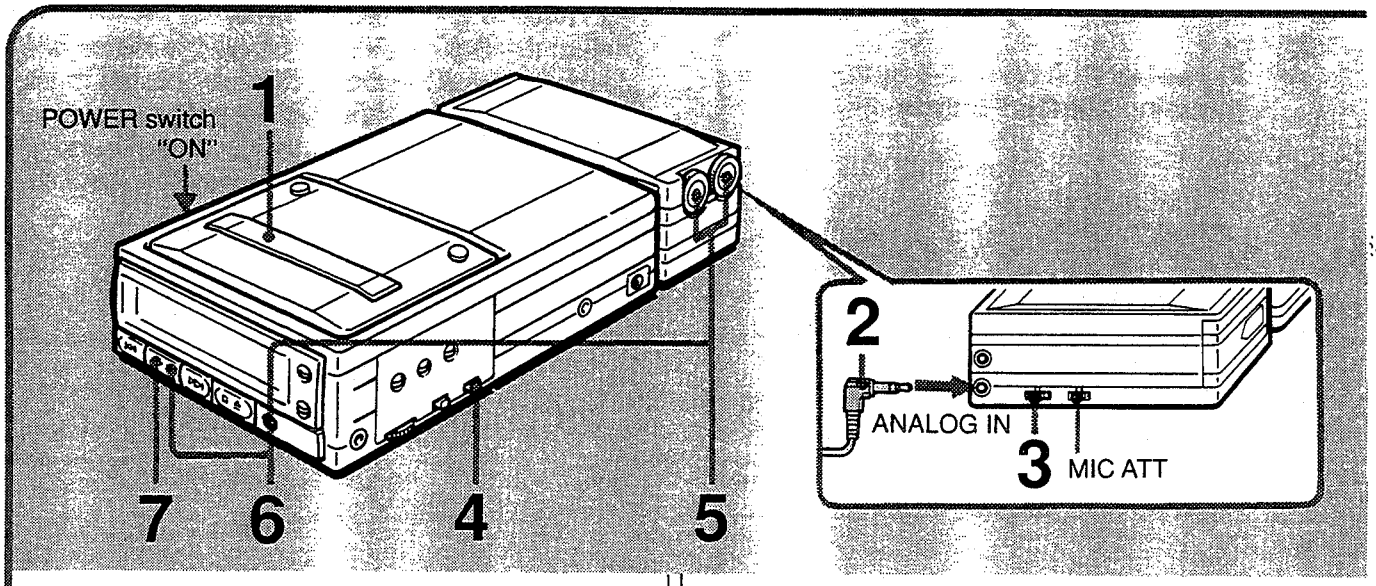



### ■ Adjusting the record level

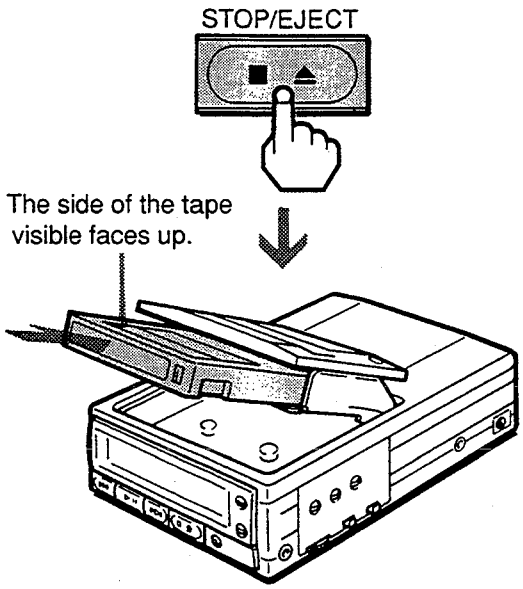
Adjust the REC LEVEL knob so the meter does not go past 0 dB at the loudest point in the music. If 0 dB is passed, the OVER indicator appears. If it is displayed continually, the recorded sound will be distorted, so lower the record level accordingly.

# RECORDING

## Recording with Microphone




**1** **Insert a cassette.**

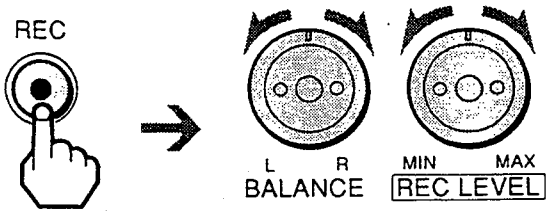


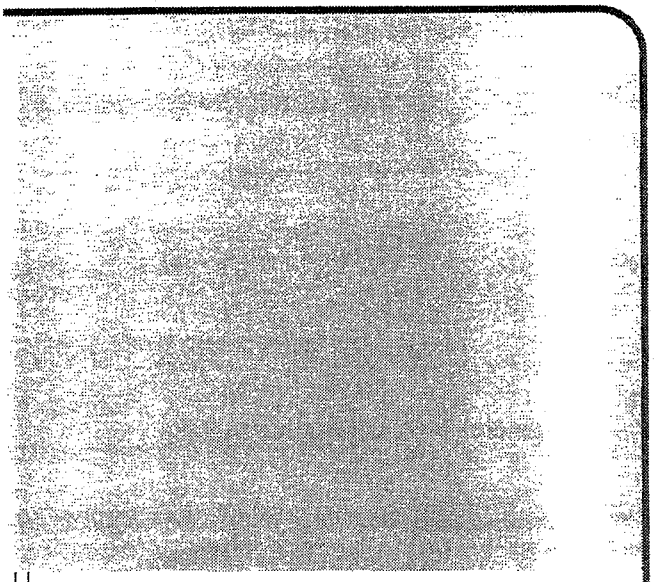

**2** **Connect a microphone to the ANALOG IN jack.**

**3** **Set the LINE/MIC switch to MIC.**

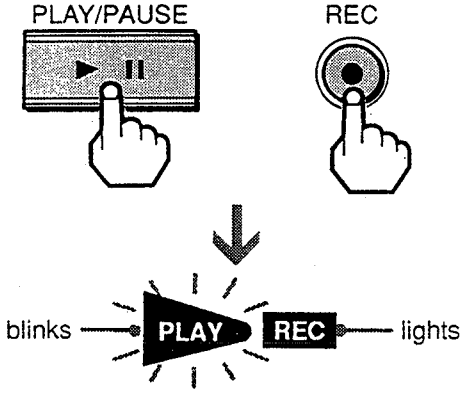
**4** **Set the INPUT switch to A (adaptor).**

**5** **Press the REC button and adjust record level and recorded balance.**

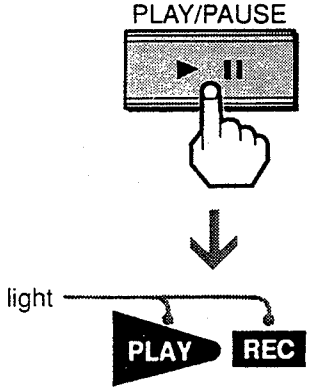




**6** **Press the PLAY/PAUSE button while pressing the REC button.**




**7** **Press the PLAY/PAUSE button once more to begin recording.**




### About recording from direct microphone input

When it is impossible to record without distortion or when a low enough recording level cannot be set, set the MIC ATT switch to 20 dB and readjust record level.

### To erase a recording

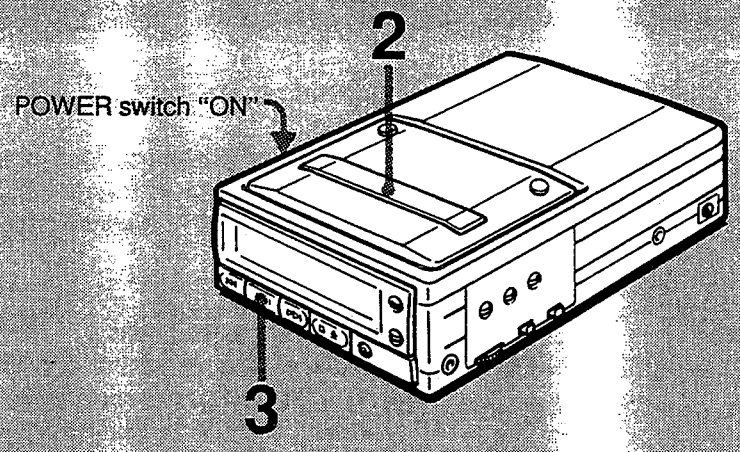
If the previously recorded tape is recorded over again, the previous recording will be erased.
To erase without recording any sound; set the INPUT switch to A, set the LINE/MIC switch of the A/D converter to LINE, and turn the REC LEVEL knob to MIN, then operate the steps of recording.

### Nonrecorded sections (blanks) and silent recorded sections

Although both are silent, digital tape recorders make a distinction between nonrecorded sections or blanks (sections which have never been recorded) and silent recorded sections.
Unlike blanks, silent recorded sections have subcode signals and ATF signals recorded on them.
If there are blanks, it may take a long time to conduct a search or A.TIME (the recording time from the beginning) may not be registered correctly. Therefore, when recording from partway through the tape, use AARS function to record without blank.

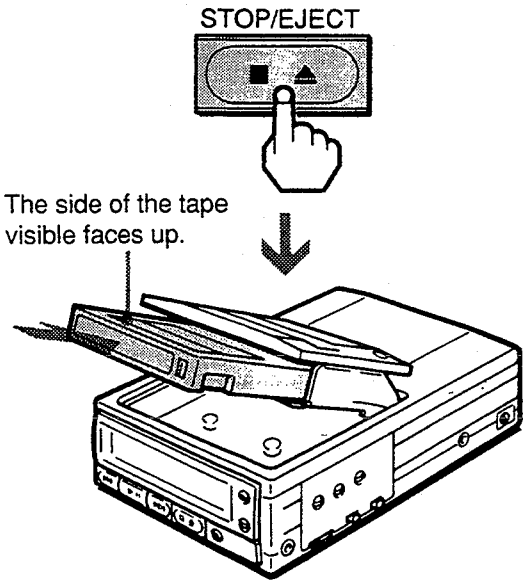
This unit is not compatible with the long-play mode or 4-channel mode.

# PLAYBACK

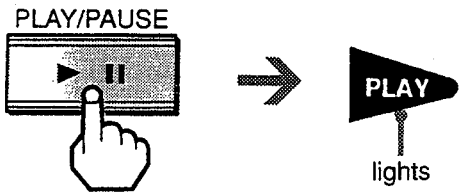



**1** **If there is an amplifier connected to the HD-S1, turn the volume down.**

**2** **Insert a cassette.**




**3** **Press the PLAY/PAUSE button.**




**4** **Readjust amplifier volume and/or headphone level to the desired listening level.**

| | |
|---|---|
| To stop playback | Press the STOP/EJECT button. |
| To pause | Press the PLAY/PAUSE button. |
| To resume | Press the PLAY/PAUSE button again. |
| To take out the cassette | Press the STOP/EJECT button in stop mode |

**Using Headphones**

We recommend connecting the headphones to the PHONES jack of the remote control unit.

## Finding Track Start

### To skip tracks

Press F FWD/F SKIP ▶▶I during play.

↓

Press the same number of times as the number of tracks you want to skip.

(Example of selecting the fifth track to the one playing now by pressing five times.)

↓

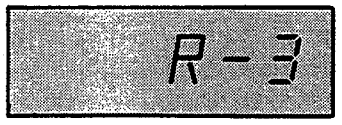
Play of the selected track is about to begin.

### To find a previous track

Press REW/B SKIP I◀◀ during play.

↓

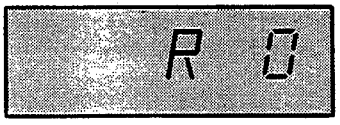
Press the same number of times as the number of tracks you want to skip.




(Example of selecting the second track to the one playing now by pressing three times.)

↓

Play of the selected track is about to begin.

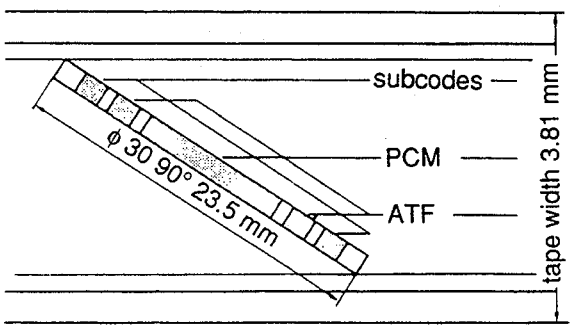



**Note**

- Press I◀◀ once to rewind to the beginning of the track playing now. The window shows R-1.

### ■ The Track format

DAT tracks are divided as shown in the diagram. The sound signal is converted into a PCM (pulse code modulated) digital signal and recorded. ATF (automatic tracking finding) recording is done on both sides of the PCM signal, enabling stable tracking with the rotating head alone. Further outside the ATF tracks are the subcode areas.
Codes used for high-speed searches may be recorded in the subcode areas. The HD-S1 uses start IDs, recorded tape running time (Absolute TIME) and program numbers.



# SUBCODES

In addition to the digital audio signal containing the sound, DAT will also register subcodes that make this tape a great deal more convenient to use.
When registering or erasing subcode information, the cassette shell's record prevention tab must be in the closed (recordable) position. When additions and changes to the subcodes are completed, remember to protect them and the sound recording by returning the tab to its open (recording protected) position.

**Subcodes that can be registered by this recorder**

| Subcodes | Functions | Registered |
|---|---|---|
| A.TIME: Absolute time | Shows the sequential recorded time from the beginning of the tape. | Automatically |
| START ID (Registered for 9 seconds on the beginning of a track) | Shows the beginning of a track. | Automatically during the recording |
| | | Manually during recording or playback |
| PROGRAM NO. (Registered for 9 seconds on the beginning of a track) | Shows the number of tracks (in sequence). | Automatically during the recording |
| | | By RENUMBER function |

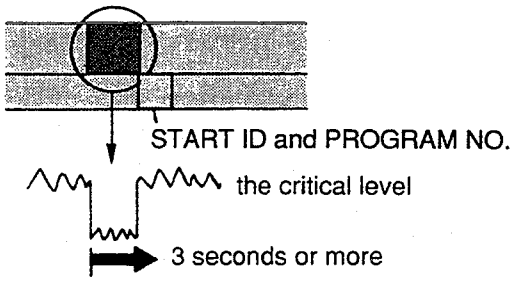
- START ID: ID is a shortened form of Identification Code.

## About START IDs

START IDs mark the beginnings of programs. If they are registered, the location of programs during playback is easy. They are registered automatically during recording, or manually at the desired location during recording or playback.
While START IDs are being registered, only the STOP/EJECT button functions.

### ■ How registering is done automatically

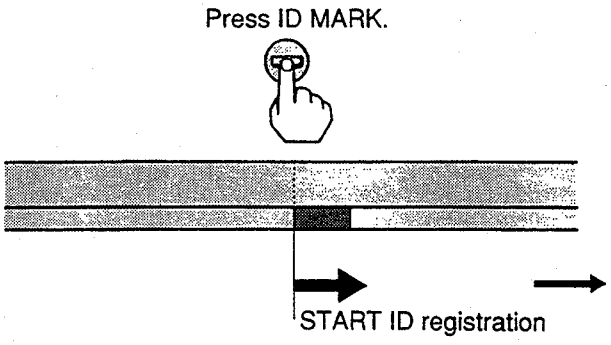
- PROGRAM NOs are also registered with START IDs.
- START IDs may also be registered following or during pianissimo or extremely low-level music.
- START IDs may not be registered if narration or hand clapping is recorded between programs.
- START IDs are not registered automatically during tape-to-tape digital dubbing.



## ■ To register IDs at the desired locations

START IDs are not registered automatically during recording digital signals or when the sound signals do not break between selections. In such a case, they can be registered manually as follows:

Press ID MARK at the desired point during playback or recording.



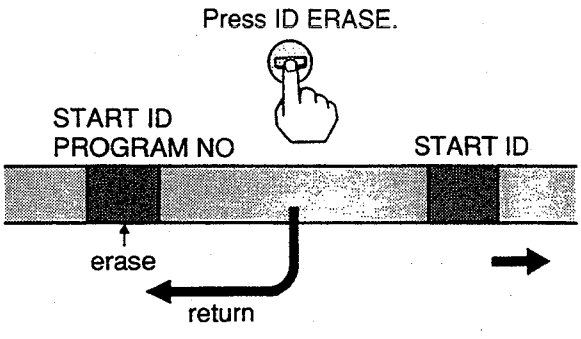

START ID is registered for 9 seconds from the point the button pressed.
START ID indicator flickers during registering.

**Note**

More than 18 seconds must elapse between START IDs for proper track location during playback.

## ■ How to erase START IDs

1 Find the START ID you want to erase.
2 Press the ID ERASE button during playback after you have passed this start ID.




This START ID is erased. The START ID indicator flickers during erasure.
The PROGRAM NO is also erased at the same time.

## ■ To revise program numbers

The order of program numbers are disrupted when registering or erasing START IDs on a previously recorded tape or during rerecording. The program numbers of a tape on which the START IDs has been altered can be quickly and simply revised using the RENUMBER funciton.

Press the RENUMBER button during playback or at stop.

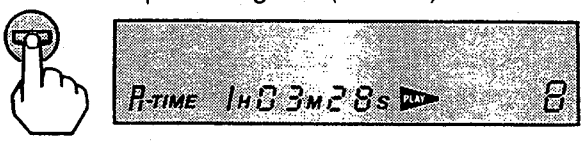
After the tape has automatically rewound to the beginning, the first START ID is detected and the program numbers are added in succession, starting from 1. During registration, the sound on the tape is audible.
After the program number has been automatically registered on the first 9 seconds of the program, the recorder automatically fast forwards to the START ID of the next track.

**Note**

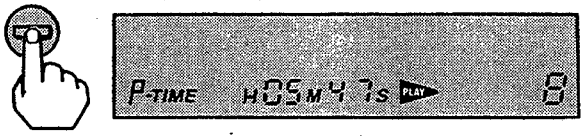
The renumbering function does not work on tapes with no recorded absolute time.

# EFFECTIVE USE OF THE COUNTER

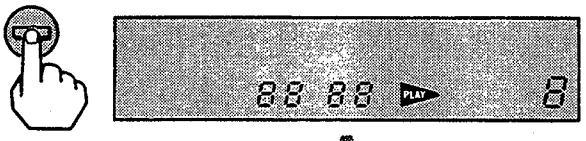
DISPLAY Tape running time (A. TIME)




DISPLAY Program elapse time (P. TIME)




DISPLAY Tape counter



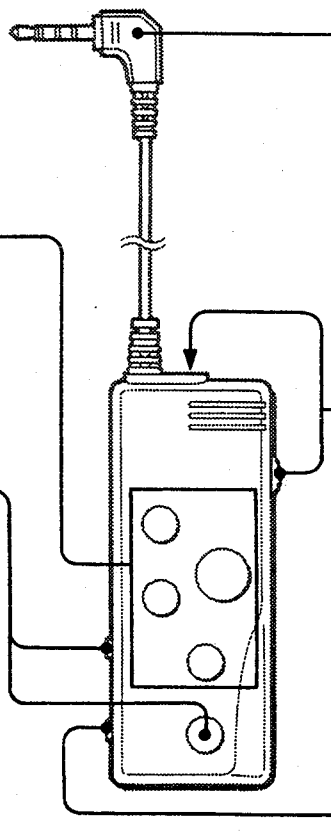

The tape running time (A.TIME), program elapsed time (P.TIME) and tape counter are displayed on the counter. Press the DISPLAY button to change the display.

- A.TIME display is not shown:
When A.TIME is not registered, window displays "....." even if any selections are recorded.

- P.TIME display is not shown:
  ⓐ When START IDs are not registered.
  ⓑ During fast forwarding, rewinding or searching for a track.
  ⓒ When starting playback from the middle of the track. P.TIME is not displayed until the next START ID.

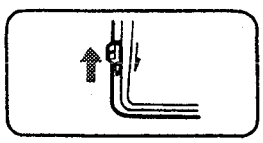
- How to reset the tape counter:
Press the AARS/RESET button when the tape counter is displayed.
Display changes to "0000".

# REMOTE CONTROL OPERATION



**Before use**

Connect the plug to the PHONES jack of the HD-S1.
Push the KEY HOLD switch upwards.



**Tape operation**

The buttons function the same as the ones of the HD-S1, except for the REC (record) button.

- Tape cannot be ejected when pressing the STOP button.

**Recording**

Set the MODE switch to REC, then press the PLAY/PAUSE button while pressing the REC button. (Recording is paused.)
Press the PLAY/PAUSE button again to start recording.

- When not recording, set the MODE switch to PROTECT to prevent unintended recording (The REC button will not function).

**Headphones**

Connect the headphones plug to the PHONES jack, and adjust the VOLUME control.

- Set the VOLUME control of HD-S1 to higher the middle.

**To avoid inadvertent operation**

Push the KEY HOLD switch in the direction of the arrow, and the tape operation buttons will not function.

# TROUBLESHOOTING

| Symptom (s) | Cause (s) | Solution |
|---|---|---|
| Tape operation buttons do not work. | The KEY HOLD switch is on. | Set off the KEY HOLD switch. |
| | During the registration of START ID (approx. 9 seconds), only the STOP/EJECT button works. | Operate after START ID registration is complete. |
| The PLAY/PAUSE, F FWD/ F SKIP buttons do not operate even if pressed. | The tape is completely wound to the end. | Press the REW/B SKIP button to rewind the tape. |
| Even though the following buttons are pressed, they do not operate.<br>REC, RENUMBER, ID MARK, ID ERASE. | The cassette's accidental erasure prevention tab is open. | Close the cassette's accidental erasure prevention tab. |
| While the tape is moving, the CAUTION indicator suddenly appears and operation stops. | The tape is running unstably. | Remove the cassette and insert it again. |
| | There is something wrong with the cassette shell, or it is warped. | Change the cassette. |
| Recording is not possible. | The cassette's accidental erasure prevention tab is open. | Close the cassette's accidental erasure prevention tab. |
| | The record level is turned all the way down. | Set the record level with the REC LEVEL on the A/D converter. |
| | The INPUT switch is set wrong. | Set the INPUT switch properly. |
| Recording or playback cannot be done. | Connecting is improper. | Connect properly. |
| Digital dubbing is not possible. | The copy prohibit signal is in the tape. | Dubbing (copying) is not possible. (See page 11) |
| Searching takes a long time. | There are unrecorded portions in the tape. | When recording, use the AARS function so as to leave no unrecorded sections in the tape. |
| The RENUMBER function malfunctions, searching is not possible (even when the START ID indicator is on). | There are not 9 seconds of START IDs. | Erase and reregister START IDs. |
| | Because the track is short (or for some such reason), START IDs registered with the ID MARK button are shorter than 18 seconds in length (with automatic registration, 2 START IDs cannot be registered in 18 seconds or less). | When START IDs are registered manually, make the interval between 2 START IDs 18 seconds or more. |
| When searching for a track, playback starts after the beginning of the music. | START ID is registered after the beginning of the track. | Erase and reregister START IDs. |
| Display does not indicate. | The battery is consumed. | Recharge the battery. |

**If the unit fails to work or indicate normally;**
Set the POWER switch to OFF. After confirming that the display window has gone out, turn the POWER switch ON and operate again.

# SPECIFICATIONS

## ■ Tape Specifications

| | |
|---|---|
| Tape | Digital audio tape |
| Head | Rotating head |
| Tape speed | 8.15 mm/sec |
| Sampling frequencies | Recording: 48 kHz, 44.1 kHz, 32 kHz<br>Playback: 48 kHz, 44.1 kHz, 32 kHz |
| Digitization | 16-bit linear |
| Number of channels | 2 (stereo) |

## ■ Audio (attaching the A/D converter)

| | |
|---|---|
| Frequency response | 20 Hz – 22,000 Hz |
| S/N | 85 dB (or better) |
| Dynamic range | 85 dB (or better) |
| Total harmonic distortion | 0.01% [or less (1 kHz)] |
| Wow & flutter | Measurable limit (± 0.001% W PEAK) or less |

## ■ Input/Output Terminals

[On the DAT]

| | |
|---|---|
| PHONES | Stereo mini jack (max. 15 mW + 15 mW, EIAJ/ 32 Ω) |
| DIGITAL I/O (in/out) | Stereo mini jack (0.5 Vp-p, input/output impedance 75 Ω) |

[On the A/D converter]

| | |
|---|---|
| ANALOG IN | Stereo mini jack<br>LINE: 200 mV, input impedance 47 kΩ<br>MIC: 1 mV (ATT 0 dB), 10 mV (ATT 20 dB), input impedance 10kΩ |
| ANALOG OUT | Stereo mini jack<br>Maximum output level 1.2 V (RMS, 48 kHz), output impedance 47 kΩ |

## ■ Power supply/Miscellaneous

| | |
|---|---|
| Power supply | Rechargeable lead battery DC 6 V (PB-20)<br>Local AC power (using the supplied AC adaptor, DC 7.4 V) |
| Battery life | Supplied rechargeable lead battery PB-20 (when not using the A/D converter)<br>Approx. 55 minutes (EIAJ, playback/2 hours recharging)<br>Approx. 55 minutes (EIAJ, digital recording/2 hours recharging) |
| Maximum External Dimensions | DAT:<br>95.0 (W) × 38.1 (H) × 146.4 (D) mm<br>A/D converter:<br>94 (W) × 37.6 (H) × 50.1 (D) mm |
| Weight | DAT:<br>Approx. 610 g (with rechargeable lead battery)<br>A/D converter:<br>Approx. 100 g (without rechargeable lead battery) |

## ■ AC Adaptor

| | |
|---|---|
| Rated voltage | AC-740E: AC 220 V<br>AC-740K: AC 240 V |
| Rated input | 18 VA, 50/60 Hz |
| Rated output | DC 7.4V, 1000 mA |
| Usable Batteries | AIWA rechargeable lead battery (PB-20) |

## ■ Accessories

A/D converter HDA-1 (1)
Rechargeable lead battery PB-20 (1)
AC adaptor AC-740 (1)
Connecting cord (2)
Wired remote controller (1)
Carrying case (1)

The specifications and external appearance of this unit are subject to change without prior notice.